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TITLE: COLOR VIDEO INTERCOM

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INVENTOR-INFORMATION:

NAME COUNTRY
ONO, MASAHIRO N/A

ASSIGNEE-INFORMATION:

NAME COUNTRY
AIPHONE CO LTD N/A

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ABSTRACT:

PROBLEM TO BE SOLVED: To provide the color video intercom where sufficient luminance is ensured from the start-up and a figure of a visitor is sharply displayed.

SOLUTION: In the color video intercom where a video image of a visitor photographed by a color camera entrance slave set 1 is displayed on an LCD unit 3 of a color video intercom 2 installed indoor, the color video intercom 2 is provided with a voltage changing circuit 5 that is placed between a switching power supply 2e and an inverter circuit 6a of a back light unit 6 and provides an output of a starting voltage higher than a voltage in a steady- state and the circuit 5 applies the higher starting voltage than the voltage in the steady-state to the back light unit 6. Thus, the image of the visitor is displayed with a sufficient luminance ~~from~~ *after* the start-up.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] Especially this invention relates to the color-television intercom equipment which carried the brightness UP circuit at the time of starting in the back light unit of LCD about color-television intercom equipment.

[0002]

[Description of the Prior Art] It consists of a cordless handset 91 and a color-television intercom 92. conventional color-television intercom equipment is shown in drawing 2 -- as -- the color camera door -- Switching power supply 92e with which the color-television intercom 92 builds the DC power supply of a device from AC100V, the color camera door -- the video signal, message signal, and the color-television intercom 92 which are sent from a cordless handset 91 -- the color camera door -- the cordless handset sent to a cordless handset 91 -- multiplex circuit 92a which carries out multiplex [of the message signal] to a power source -- a color camera -- speaking circuit 92c which forms the message with a cordless handset 91 and 92d of handsets, and the color camera door -- it consists of video-signal demodulator circuit 92b and the LCD units 93 which restore to the modulation video signal sent from the cordless handset 91. The LCD unit 93 consists of back light units 96 which illuminate video-signal processing circuit 93a which divides into a R-G-B signal the video signal outputted from video-signal demodulator circuit 92b, LCD panel 93b which projects an image, and LCD panel 93b, and the back light unit 96 consists of cold cathode tube 96b and inverter circuit 96a. Moreover, these actuation is controlled by CPU97.

[0003] the color camera door -- if there is a call from a cordless handset 91, CPU97 will detect a call and will operate multiplex circuit 92a and speaking circuit 92c -- making -- the color camera door -- the message between a cordless handset 91 and 92d of handsets is formed. moreover -- the same -- control of CPU97 -- video-signal demodulator circuit 92b -- the color camera door -- the modulation video signal from a cordless handset 91 gets over to a video signal, and is added to the LCD unit 93. Moreover, a power source is similarly supplied to the LCD unit 93 by control of CPU97 from switching power supply 92e, thereby, high-pressure alternating voltage is generated, this is impressed to cold cathode tube 96b, and cold cathode tube 96b turns on inverter circuit 96a. Thereby, the back light unit 96 lights up. The video signal added to this and coincidence from video-signal demodulator circuit 92b is changed into a R-G-B signal by video-signal processing circuit 93a, it is added to LCD panel 93b, and a visitor's image projects on LCD panel 93b.

[0004]

[Problem(s) to be Solved by the Invention] By the way, brightness does not go up a back light unit 96 like before the property top of cold cathode tube 96b, and immediately after lighting.

[0005] Since television intercom equipment had the short time amount from the call from the property top visitor to message termination, when sufficient brightness was not securable from immediately after lighting, it had the difficulty that a visitor's appearance does not copy out vividly.

[0006] This invention was made in order to remove the above conventional difficulties, and it aims at

offering the color-television intercom which can secure sufficient brightness from the time of starting, and can copy out a visitor's appearance vividly.

[0007]

[Means for Solving the Problem] In order to attain the above-mentioned purpose, the color-television intercom equipment by this invention In the color-television intercom equipment which projects on the LCD unit of an indoor color-television intercom a visitor's image picturized with the cordless handset the color camera door -- a color-television intercom It has the electrical-potential-difference conversion circuit by which the electrical potential difference at the time of starting outputs an electrical potential difference higher than the electrical potential difference at the time of a stationary between switching power supply and the inverter circuit of a back light unit. It is characterized by projecting a visitor by brightness more sufficient than the time of starting by impressing an electrical potential difference higher than the time of a stationary to said back light unit at the time of starting.

[0008] In such color-television intercom equipment, since the high voltage is impressed to an inverter circuit at the time of starting, sufficient brightness is secured from the time of starting.

[0009]

[Embodiment of the Invention] Below, one example of the color-television intercom equipment by this invention is explained in full detail with reference to a drawing. It consists of a cordless handset 1 and a color-television intercom 2. color-television intercom equipment is shown in drawing 1 -- as -- the color camera door -- Switching power supply 2e with which the color-television intercom 2 builds the DC power supply of a device from AC100V, the color camera door -- the video signal, message signal, and main phone which are sent from a cordless handset 1 -- the color camera door -- the cordless handset sent to a cordless handset 1 -- multiplex circuit 2a which carries out multiplex [of the message signal] to a power source -- a color camera -- speaking circuit 2c which forms the message with a cordless handset 1 and 2d of handsets, and the color camera door -- it consists of video-signal demodulator circuit 2bs and the LCD units 3 which restore to the modulation video signal sent from the cordless handset 1. The LCD unit 3 consists of back light units 6 which illuminate video-signal processing circuit 3a which divides into a R-G-B signal the video signal outputted from video-signal demodulator circuit 2b, LCD panel 3b which projects an image, and LCD panel 3b, and the back light unit 6 consists of cold cathode tube 6b and inverter circuit 6a. Moreover, these actuation is controlled by CPU7.

[0010] It is the configuration that the electrical-potential-difference conversion circuit 5 was added to the color-television intercom 2 of this invention between switching power supply 2e and inverter circuit 6a, and the set-up electrical potential difference is supplied to inverter circuit 6a in a steady state. The electrical-potential-difference conversion circuit 5 becomes the rise of the electrical potential difference of Ref terminal 5a of control IC 1 from the resistance R3 for giving a time constant, and a capacitor C1 at the time of the resistance R1 and R2 which pressures partially the control IC 1 and output voltage which control a switching transistor TR1 and it, and is fed back to control IC 1, and starting.

[0011] the color camera door -- if there is a call from a cordless handset 1, CPU7 will detect a call and will operate multiplex circuit 2a and speaking circuit 2c -- making -- the color camera door -- the message between a cordless handset 1 and 2d of handsets is formed. moreover -- the same -- control of CPU7 -- video-signal demodulator circuit 2b -- the color camera door -- the modulation video signal from a cordless handset 1 gets over to a video signal, and is added to the LCD unit 3. Moreover, a power source is similarly supplied to the LCD unit 3 by control of CPU7 from switching power supply 2e, a power source is supplied to inverter circuit 6a through the electrical-potential-difference conversion circuit 5 by this, high-pressure alternating voltage is generated, this is impressed to cold cathode tube 6b, and cold cathode tube 6b turns on inverter circuit 6a. Thereby, the back light unit 6 lights up. The video signal added to this and coincidence from video-signal demodulator circuit 2b is changed into a R-G-B signal by video-signal processing circuit 3a, it is added to LCD panel 3b, and a visitor's image projects on LCD panel 3b.

[0012] The electrical-potential-difference conversion circuit 5 of this invention and actuation of the back light unit 6 are explained below. The electrical-potential-difference conversion circuit 5 controls a transistor TR1 so that the electrical potential difference of Ref terminal 5a of control IC 1 becomes equal

to the reference voltage of the IC1 interior. The electrical potential difference impressed to Ref terminal 5a is an electrical potential difference which pressured partially the output voltage of an electrical-potential-difference conversion circuit by resistance R1 and R2. Therefore, the electrical potential difference impressed to the output voltage of the electrical-potential-difference conversion circuit 5, i.e., inverter circuit 6a, is decided by the division ratio of resistance R1 and R2. A capacitor C1 and resistance R3 are connected to juxtaposition at resistance R2. With the time constant of supply ****, and a capacitor C1 and resistance R3, the electrical potential difference of Ref terminal 5a rises, and switching power supply 2e to a power source reaches the internal reference electrical potential difference of IC1. Therefore, immediately after supplying a power source, the output voltage of an electrical-potential-difference conversion circuit becomes higher than the set point, and it falls to the set point in the time amount on which it decided with the time constant of a capacitor C1 and resistance R3. Inverter circuit 6a outputs the alternating voltage proportional to the impressed electrical potential difference. An electrical potential difference higher than the time of a stationary will be impressed to cold cathode tube 6b by this at the time of starting. therefore, the color camera door -- a bright clear image can be obtained from a cordless handset from immediately after a call.

[0013] Moreover, since the brightness of enough screens is securable from display initiation if it is in the back light of the liquid crystal message panel which displays text with an electrical-potential-difference conversion circuit as application of this invention, text can be told exactly.

[0014]

[Effect of the Invention] according to [so that clearly from the above explanation] the color-television intercom equipment of this invention -- the color camera door -- immediately after there is a call from a cordless handset, a bright clear image can be obtained [from], and a visitor's appearance can be projected vividly.

[Translation done.]

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] The block diagram showing the example of a gestalt of operation of the color-television intercom equipment of this invention.

[Drawing 2] The block diagram showing conventional color-television intercom equipment.

[Description of Notations]

- 1 -- color camera door -- a cordless handset
- 2 -- Color-television intercom
- 2e -- Switching power supply
- 3 -- LCD unit
- 5 -- Electrical-potential-difference conversion circuit
- 6 -- Back light unit
- 6a -- Inverter circuit

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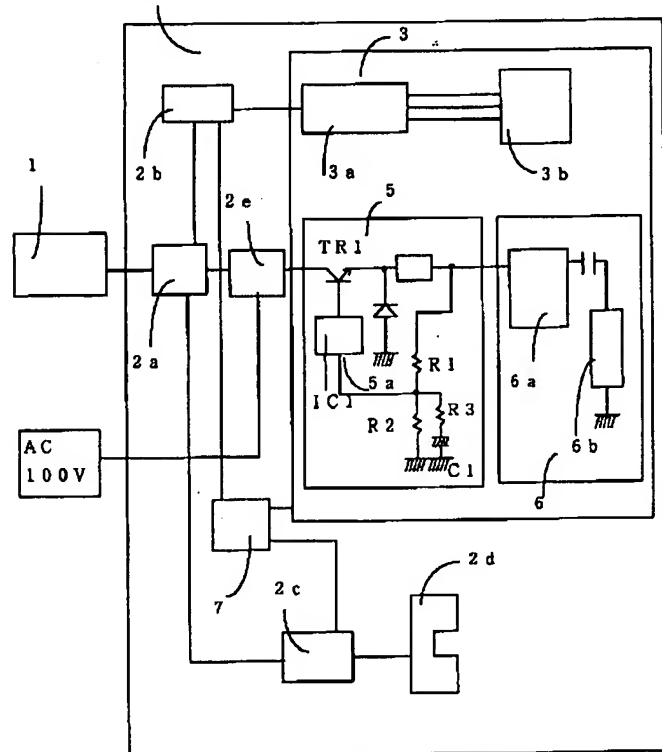
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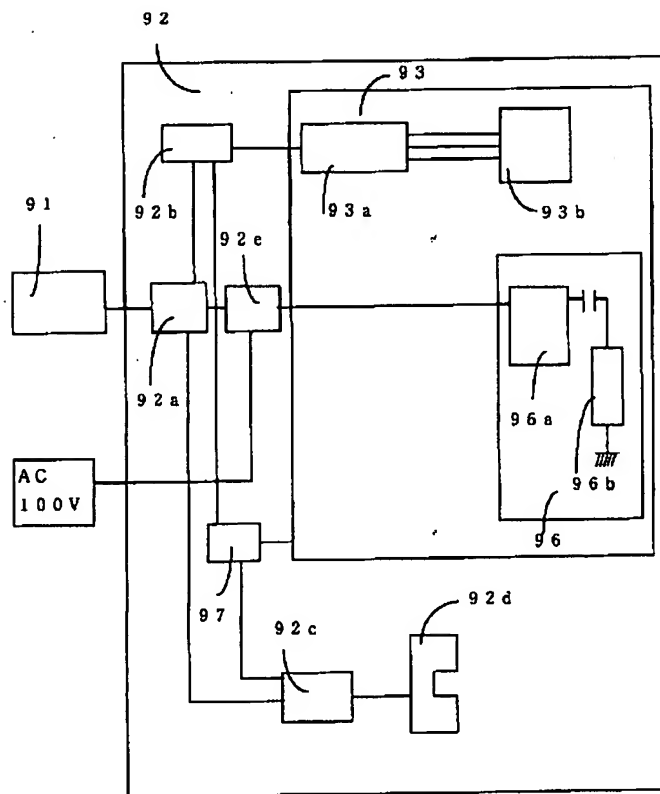
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DRAWINGS

[Drawing 1]
2



[Drawing 2]



[Translation done.]